

Message

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Sent: 9/2/2021 5:48:32 PM
To: Matt Tonkin [matt@sspa.com]; Palazzolo, Nicole [Palazzolo.Nicole@epa.gov]; Duffy, Mark [duffy.mark@epa.gov]
CC: g.d.beckett@aquiver.com; Donald Thomas [dthomas@soest.hawaii.edu]; Whittier, Robert [Robert.Whittier@doh.hawaii.gov]; Grange, Gabrielle Fenix [gabrielle.grange@doh.hawaii.gov]; Tu, Lyndsey [Tu.Lyndsey@epa.gov]
Subject: FW: [EXTERNAL] GWFM objectives memo
Attachments: Draft GWFM Objectives Sep01_2021.docx

Forwarding the attached additional comments.

From: g.d.beckett@aquiver.com <g.d.beckett@aquiver.com>
Sent: Wednesday, September 01, 2021 11:32 AM
To: Ichinotsubo, Lene K <lene.ichinotsubo@doh.hawaii.gov>; Grange, Gabrielle Fenix <Gabrielle.Grange@doh.hawaii.gov>
Cc: Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; dthomas@soest.hawaii.edu; Shende, Anay <anay.shende@doh.hawaii.gov>
Subject: [EXTERNAL] GWFM objectives memo

Hi folks,

Attached are my final comments on the GWFM objectives memo (I've updated the file name to today's date). I think Matt T did a good job of changing the tone and intent. Most of my thoughts were in the realm of additional clarifications, including that the agencies do not accept the Navy LNAPL holding model as sufficient to estimate LNAPL migration rates, directions, and transient behaviors. Some key thoughts:

1. We cannot answer any questions until the GWFMs are updated to better reflect area data, parameter ranges, transient responses, etc.
2. When the models are improved, they may be informative to some of the stated objectives. But, that will depend on whether the EPM and other simplifications are appropriately justified (or changed) through both site analysis and credible literature review. We have asked many times for like examples and have been provided none. We have shown examples we have identified that do not support the CSM and its implied simplifications to GWFMs & CF&T.
3. Pardon my usual bluntness, but the idea of collaborative work with agency SMEs is a bit of a farce. That offer has been made many times and refused by the Navy team each time. I suggest we simply wait for their updated GWFMs and critique them by the same criteria we used in our recent reviews.
4. To me, the best value of GWFM is to investigate the knowns and unknowns in the system to then indicate potential CF&T behaviors at their smaller and more complex scale of interest. As some of you know, CF&T is heterogeneous even in homogeneous geologic settings (e.g., such as Borden Landfill, Guadalupe field, etc.).
5. To all of the above, we are interested in what appears to be most representative as baseline, but modeling CF&T/risk needs to be skewed toward the upper 90% worst-case outcomes. In other words, sequences of spills, locations, geology, etc. that may reasonably combine to create rapid and distal fuel transport and associated risks to area receptors and the aquifer.
6. Finally, the presumption that g.w. capture is a use of the GWFMs is accurate. However, the underlying assumption that capture is the most effective and only mitigation measure has not been developed in the Navy IRR. We've asked the question before: "Navy, can you show us places where g.w. capture has worked at this geographic scale, with similar release potentials, and in a hard rock setting?" Crickets.. There are none I know of, and I have seen many fail. It's the dullest tool in the remediation box for a wide variety of reasons that we can discuss on our next call.

Bob, I know you are digging out. But your input is important. Hopefully we've covered what you expect.

Best regards

G.D. Beckett, PG, CHg
Principal Hydrogeologist

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